



DEPARTMENT OF THE ARMY  
HEADQUARTERS UNITED STATES ARMY FORCES COMMAND  
1777 HARDEE AVENUE SW  
FORT MCPHERSON GEORGIA 30330-1062

REPLY TO  
ATTENTION OF

AFLG-PRO


25 Nov 97

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Contracting Information Letter (CIL) 98-09, General Accounting Office (GAO) Sustained Protest, Beldon Roofing and Remodeling Company

1. Enclosed is the entire text, SAB, for your information (encl 1). It is essential that a protest report describe in-depth, the methodology used to develop the government estimate. All steps used to create the government estimate must be disclosed early in the protest process. This protest had a very clear case of mathematical unbalancing in the protester's bid and the Army felt they only needed to establish the validity of the estimated quantities to prove material unbalancing.
2. This case turned mostly on the following facts: (1) it appeared the customer was less than candid in the original submission and (2) the estimates did not match either the historical or the projected workload.
3. Whenever a protest is lost in the GAO arena, the contracting office losing the protest must prepare a draft letter to GAO, detailing what happened and describing the corrective actions taken to prevent a recurrence. The draft letter is to be forwarded to HQ FORSCOM in sufficient time to allow for FORSCOM review and forwarding to SARDA. The PARC office will provide a suspense date for receipt of the draft letter. The draft letter must be accompanied by written review from your local legal counsel. Enclosure 2 provides a sample letter.
4. For additional information, please contact Irene E. Hamm, hammi@ftmcphsn-emh1.army.mil or 404/464-5632.

2 Encls

  
CHARLES J. GUTA  
Colonel, AC

Chief, Contracting Div, DCSL&R  
Principal Assistant Responsible  
for Contracting

Beldon Roofing & Remodeling Company, B-277651, November 7, 1997

Matter of: Beldon Roofing & Remodeling Company  
File: B-277651  
Date: November 7, 1997

Joseph A. Hackenbracht, Esq., Starfield & Payne, for the protester. Ronald J. Garber, Esq., Shapiro, Fussell, Wedge, Smotherman & Martin, for Murton Roofing of South Carolina, Inc., an intervenor. Col. Nicholas P. Retson, and Maj. Jonathan C. Guden, Department of the Army, for the agency. John Van Schaik, Esq., and Michael R. Golden, Esq., Office of the General Counsel, GAO, participated in the preparation of the decision.

#### **DIGEST**

A solicitation for a requirements-type contract should be canceled and resolicited when the contracting agency cannot establish that the solicitation's quantity estimates are realistic and reflect the government's actual anticipated requirements.

#### **DECISION**

Beldon Roofing & Remodeling Company protests the rejection of its bid as unbalanced under invitation for bids (IFB) No. DAKF11-97-B-0006, issued by the Army for roofing repair and replacement. Beldon argues that its bid is not unbalanced. Alternatively, Beldon argues that the IFB is flawed since the quantity estimates in the solicitation do not reasonably reflect the government's needs. We agree with Beldon that the solicitation is flawed and we **sustain** the protest on that basis. The Army issued this solicitation for all labor, equipment, and materials necessary to repair and replace roofing on buildings at Forts McPherson and Gillem. The IFB called for award of a requirements-type contract for a base year and two option years. Section B of the solicitation listed 149 contract line items (CLIN) for each contract period, along with an estimated quantity for each CLIN. \1 Bidders were to supply a unit price for each CLIN, which was to be multiplied by the estimated quantity to determine an extended price for that CLIN. The overall price of each bid was to be calculated by totaling the extended prices. The Army received bids from Beldon, Murton Roofing of South Carolina, Inc., and American Renovation and Construction at the following overall prices:

Beldon \$6,830,466  
Murton \$7,494,806  
American \$8,611,950

Agency officials concluded that Beldon's bid was mathematically unbalanced because it contained understated prices for some CLINs and overstated prices for others. The agency also concluded that Beldon's bid was materially unbalanced, because, due to its mathematical unbalancing, there was a reasonable doubt that the bid would result in the lowest overall cost to the government. The agency therefore rejected the bid pursuant to Federal Acquisition Regulation (FAR) §§ 15.814(b) and 52.214-19(d). The contract was awarded to Murton. Work on the contract was suspended pending resolution of the protest. As GAO explained in detail below, GAO agreed with the Army that Beldon's bid was mathematically unbalanced. However, GAO did not reach the issue of whether Beldon's bid was materially unbalanced. Rather, GAO agreed with Beldon's alternative contention that the quantity estimates in the IFB did not reasonably reflect the government's needs. In determining whether a bid is impermissibly unbalanced, the bid must first be shown to be mathematically unbalanced, which involves the assessment of whether the bid is based on understated prices for some work and overstated prices for other work. See Outer Limb, Inc., B-244227, Sept. 16, 1991, 91-2 CPD ¶ 248. Next,

*End*

to be rejected as unbalanced, the bid must be materially unbalanced, that is, there must be a reasonable doubt that award to the bidder submitting a mathematically unbalanced bid would result in the lowest ultimate cost to the government. USA Pro Co., Inc., B-220976, February 13, 1986, 86-1 CPD ¶ 159, note 3. Turning first to the issue of mathematical unbalancing, as the agency explained, Beldon's bid included unit prices that were substantially below the government estimate on a significant number of CLINs. For example, Beldon bid unit prices that were 25 percent of the unit price in the government estimate for wood board decking, 16 percent of the unit price in the government estimate for 1" x 6" wood fascia, 30 percent of the unit price in the government estimate for hip and ridge slate shingles, 30 percent of the unit price in the government estimate for 16 oz. copper flashing, and 12 percent of the unit price in the government estimate for various types of copper elbows. Beldon's bid also included unit prices substantially above the unit prices in the government's estimate on a significant number of other CLINs. For example, Beldon's unit price for roof flashing was five times the unit price in the government's estimate for that item, its unit price for gutters/downspouts was 10 times the unit price in the government's estimate, its unit price for ventilators, warehouse-76' x 2' was three times the unit price in the government's estimate, its unit price for roll roofing-1 ply asphalt smooth surface was three times the unit price in the government's estimate, and its unit price for vent warehouse-aluminum 76' x 2' was six times the unit price in the government's estimate. The Army explains that it derived the unit prices in the government's estimate from the R.S. Means Building Construction Cost Data, a trade publication which provides cost information on various construction projects. Beldon did not argue that the unit prices used in the government estimate were in error or that the publication relied upon by the agency was not a reliable source of information on construction costs. Under the circumstances, the GAO concluded that the government estimate included reasonable, good faith estimates of the actual unit cost to perform the work under each CLIN. In light of the sharp disparity between Beldon's prices and the government's estimated prices, GAO agreed with the Army that Beldon's bid included numerous understated unit prices and numerous overstated unit prices and, as a result, that the bid was mathematically unbalanced. As explained above, the Army considered Beldon's bid materially unbalanced also. The determination that Beldon's bid was materially unbalanced was premised upon the Army's belief that, given the inherent uncertainty of roofing estimates, its actual needs may deviate significantly from the estimated quantities in the IFB. The Army contended that, while the quantity estimates in the IFB were the agency's best estimates, the actual quantities ordered would depend on a number of unpredictable variables, including funding, potential storm damage, and the impossibility of determining the exact roofing needs of a given building until the exterior of the roof was removed. The Army further contended that, due to the unpredictability of actual roofing needs, and the mathematical unbalance of Beldon's bid, the fact that Beldon's bid was low based upon the estimated quantities in the IFB did not mean that an award to Beldon would actually result in the lowest cost performance. In order to determine whether Beldon's bid (rather than another bid) would result in the lowest cost of performance, the agency applied the competing bids' prices to recent past work and to future planned work. In reviewing recent work the agency examined the roofing work performed under two requirements contracts over the three previous years for Forts McPherson and Gillem and concluded that, had that work been done under the prices in Beldon's bid, the cost would have exceeded the government's estimate by \$1,607,781. The agency also calculated that the cost of that work under Murton's bid would have exceeded the government's estimate by only \$99,857. Concerning likely future work, the agency determined that performance of 11 known requirements under the prices in Beldon's bid would exceed the government's estimate for that

work by \$719,439, and performance of those requirements under Murton's prices would exceed the government's estimate by only \$130,674.

\2 On the basis of this analysis, the agency concluded that there was a reasonable doubt that Beldon's bid would result in the lowest overall cost to the government and that, consequently, the bid was materially unbalanced. Beldon argued that the agency's own analysis, although used to explain how Beldon's bid was determined to be materially unbalanced, actually demonstrated that the estimated quantities in the IFB were not prepared based on the best available information. The GAO agreed. The Army was correct in pointing out that in previous decisions concerning unbalanced bidding on solicitations for roofing work, that GAO recognized the inherent uncertainty of roofing estimates. See, e.g., Alice Roofing & Sheet Metal Works, Inc., B-275477, February 24, 97, 97-1 CPD ¶ 86 at 5, and Beldon Roofing & Remodeling Co., B-253199, B-253199.2, August 18, 13, 93-2 CPD ¶ 103 at 7. The Army argues that due to that uncertainty, there should be no requirement to apply mathematically unbalanced bid prices to any type of actual requirements--either historical or prospective--in order to show that a mathematically unbalanced bid is materially unbalanced. In other words, according to the Army, "for material unbalancing analysis in roofing cases . . . [there] is almost a 'per se' finding of material unbalance when a bid is found to be mathematically unbalanced." While GAO recognized the problems inherent in creating reliable quantity estimates for solicitations for roofing work, their prior decisions to not establish that a bid for a requirements contract for roofing work--or any other kind of work--may be found unbalanced simply based on a showing of mathematical unbalancing. On the contrary, to be rejected, a mathematically unbalanced bid must be materially unbalanced, that is, there must be a reasonable doubt that award to the bidder submitting a mathematically unbalanced bid would result in the lowest ultimate cost to the government. In fact, GAO specifically recognized this principle in the two decisions cited by the Army. See Alice Roofing, supra, at 3, and Beldon Roofing, supra, at 3. For unbalancing in requirements contracts such as this one, the accuracy of the solicitation estimates--and in particular the accuracy of the relative quantity mix among CLINs--is critical, since the unbalanced bid will become less advantageous than it appears only if the government ultimately requires a greater quantity of the overpriced items and/or a lesser quantity of the underpriced ones. Alice Roofing, supra, at 4. While there is no requirement that IFB estimates be absolutely correct, FAR § 16.503(a)(1) requires that a solicitation for a requirements contract state realistic estimated total quantities and that these estimates be based on the most current information available. Duramed Homecare, 71 Comp. Gen. 193, 198 (1992) 92-1 CPD ¶ 126 at 6. Although GAO recognized, as they stated in Alice Roofing, supra, at 5, that the actual quantities ordered under a roofing contract, in particular, are dependent upon unpredictable and unique variables, the solicitation must nonetheless contain a reasonably accurate statement of the agency's anticipated requirements. Here, GAO's review of the record in this case led them to agree with Beldon that the IFB quantity estimates do not meet that standard. The reason that the agency concluded that Beldon's bid was materially unbalanced was that, under the mix of CLINs in both the agency's actual past and likely future requirements, Beldon's bid would not be low--yet under the mix of CLINs set out in the IFB, Beldon's bid was low. The GAO agreed with Beldon that, if the quantity estimates in the IFB reflected neither past nor future requirements, there is doubt as to their reasonableness. The GAO review revealed substantial disparities between the historical information to which Beldon's bid was compared and the quantity estimates in the IFB. For instance, of the 149 CLINs in the IFB, most (86 of the 149) were not used at all under the two earlier contracts to which Beldon's bid was compared in the agency's material unbalancing analysis. Concerning anticipated future requirements, as Beldon notes, the quantities of

17 of the CLINs in the 11 known requirements were at least twice the estimated annual quantities of those items in the IFB. In addition, as Beldon noted, 106 of the items in the IFB (out of a total of 149) are not required at all in the 11 known requirements. Moreover, although the agency noted that the cost of those known requirements was \$719,431 higher based on Beldon's prices than based on the prices in the government's estimate, Beldon pointed out that most of that difference is accounted for by only two CLINs. The quantities of those two CLINs in the agency's known requirements were 89 and 77 times the estimated annual quantities for those CLINs in the IFB. Because of the disparity between the IFB quantity estimates and the agency's actual past and anticipated future needs, the GAO sought more detailed information from the agency as to how the IFB quantity estimates were derived. In response to that request, the Army explained that when the government estimate was developed in early 1997 there were 32 roofs known to need work that could be ordered under this contract, and referenced an attachment, Enclosure 4. That enclosure, which was described by the Army as "Field Estimates used to derive original quantities," included, for each of the 32 buildings, a breakdown of required line items, a description of each line item, the required quantity of each line item, unit prices, extended prices (for each line item, the required quantity multiplied by unit price), and total prices for each of the 32 buildings. The contracting officer explained that the quantities for each of the various line items were totaled and those totals were transferred to another working paper. That working paper, "Enclosure 1," included a list of all of the line items covered by the IFB and two columns of handwritten quantities for the line items. The cover page to Enclosure 1 stated, "Numbers on the left are quantities based upon the total of all field estimates in Enclosure 4." As the contracting officer explained, the estimated cost of the 32 roofing projects in Enclosure 4 was approximately \$25 million. Divided into 3 years--the base and two option years covered by the contract--each year's estimated requirement was approximately \$8.2 million. The Army reported that agency officials knew from experience that the agency would not receive funding at that level. As a result, the agency reduced the estimated quantities to bring the contract in line with historical funding levels; the overall government estimate for the three years was reduced to approximately \$7.3 million and each contract year to about \$2.5 million. The contracting officer explained that these reductions in the estimated quantities were done both on an "across the board" basis and based on the judgment of an experienced estimator of the type of work that was likely to be funded during the contract period. The agency stated that the result of this process was the estimated quantities in the IFB. In response to this explanation, Beldon noted that there were substantial discrepancies between the quantities in Enclosure 4 and the total quantities listed in the left-hand column in Enclosure 1. For example, Beldon noted that Enclosure 1 listed 33,000 square feet as the total amount of perlite 1" insulation, while in Enclosure 4 the field estimates included a total of 2,116,360 square feet of Perlite 1" insulation. Beldon's calculations showed that there were discrepancies between the Enclosure 4 field estimates and the Enclosure 1 totals for all of the listed line items. GAO's review of the record confirmed that there were substantial discrepancies between the quantities in Enclosure 4 and the total quantities listed in the left-hand column in Enclosure 1.

\3 When asked to explain these discrepancies, the Army conceded that, although it previously explained that the line items in the field estimates in Enclosure 4 were totaled to obtain the total quantities in Enclosure 1, that explanation was erroneous. The Army then explained: The file submitted as [Enclosure] 4 represented the working file as it existed on 22 September 1997. Field estimates had been added to and deleted from the working file since the field estimates were used to develop the government estimate in early 1997. Field estimates are not generally dated. It is, therefore, impossible to tell

exactly which field estimates were used to develop the government estimate. The agency's position then became that the "Army can't identify the documents that it used to develop the numbers in the left-hand column of [Enclosure] 1." The agency thus admits that the field estimates used to create the estimated quantities in the IFB cannot be identified. Moreover, the agency's material unbalancing analysis demonstrated that the IFB quantity estimates were inconsistent with both the agency's historical requirements and its anticipated future needs. Given the discrepancies between the historical information and the anticipated orders, on the one hand, and the estimates in the IFB, on the other hand, and given the Army's inability to document the development of those estimates, we conclude that the IFB's quantity estimates were not realistic estimates and thus did not meet the standard of FAR § 16.503(a)(1). The Army argues that, notwithstanding the problems with the quantity estimates in the IFB, there is no compelling reason to cancel and resolicit this requirement because Beldon was not prejudiced, since it bid on the same basis as the other bidders. According to the Army, due to the inherent uncertainty in roofing estimates, nothing would be accomplished by canceling and resoliciting. In this regard, the Army notes that FAR § 14.404 requires a "compelling reason" to cancel an invitation for bids after bids have been opened and prices exposed, and argues that there is no compelling reason to cancel the solicitation. Without reasonably reliable quantity estimates in a solicitation for a requirements contract, firms have no reasonable basis to prepare their bids and the government cannot determine which bid will actually result in the low overall cost of performance. See *Duramed Homecare*, 71 Comp. Gen. 193, 198-99 (1992), 92-1 CPD ¶ 126 at 7; *Edward B. Friel, Inc.*, 55 Comp. Gen. 231, 238-240 (1975), 75-2 CPD ¶ 164 at 9-10. It is for this reason that our decisions in this area, including decisions involving roofing work, state that the accuracy of the solicitation's quantity estimates is critical. See, e.g., *Alice Roofing*, supra, at 4. Because the quantity estimates in the IFB at issue here were questionable to the point that they did not inform bidders of the government's actual anticipated needs and it was not possible to determine which bid represented the lowest cost of performance, GAO concluded that cancellation was the only appropriate course of action here. The GAO recommended that the Army cancel the IFB, review its estimates based upon the most current information available, and resolicit its requirements under a solicitation that sets forth realistic estimated quantities. In addition, GAO recommended that the protester be reimbursed its costs of filing and pursuing the protest, including reasonable attorneys' fees. 4 C.F.R. § 21.8(d)(1) (1997). The protester should submit its certified claim for costs to the contracting agency within 60 days of receiving this decision. 4 C.F.R. § 21.8(f)(1). The protest was sustained. Comptroller General of the United States

#### NOTES

\1. The solicitation's CLINs were grouped according to the tasks associated with repairing and replacing different types of roofing systems. Thus, for example, for each contract period, the IFB contained nine CLINs for demolition, six CLINs for carpentry, 13 CLINs for insulation, nine CLINs for shingles, six CLINs for gutters, eight CLINs for metal roofing, and nine CLINs for built up roofing. There was also an additional line item for each contract period for bonds.

\2. The Army reported that these 11 unfunded requirements were considered by the agency's project engineer to be the most likely projects to be funded in the coming months.

\3. As noted above, the Army represented that the left-hand column was a total of the quantities of each line item from all 32 of the projects listed in Enclosure 4.

D R A F T

Honorable Robert Murphy  
Comptroller General of the United States  
General Accounting Office  
441 G Street, N.W.  
Washington, DC 20548

Dear Mr. Murphy:

This responds to your request to be advised of the actions taken concerning your decision B-277651, dated November 7, 1997. In that decision, your office sustained the protest of Beldon Roofing & Remodeling Company, against the rejection of its low bid under invitation for bids number DAKF11-97-0B-0006 for roofing repair and replacement at Forts Gillem and McPherson, Georgia.

The contracting officer rejected the Beldon Roofing bid finding that its bid was materially unbalanced, and therefore, nonresponsive. Beldon alleged that its bid was not unbalanced and that the government's estimates did not reasonably reflect the government's needs. Your office agreed with the Army that Beldon's bid was mathematically unbalanced, but did not decide the issue of whether Beldon's bid was materially unbalanced because the Army could not show conclusively that the quantity estimates in the IFB reasonably reflected the government's needs.

Accordingly, your office recommended that the Army cancel the IFB, review its estimates based upon the most current information available, and resolicit this requirement under a solicitation that sets forth realistic estimated quantities. In addition, your office recommended that the protester be reimbursed its costs of filing and pursuing the protest, including reasonable attorneys' fees.

In full accordance with your recommendations, the contract awarded to next low bidder will be terminated. New estimated quantities will be established. The customer will be required to provide supporting documentation showing how estimated quantities were calculated so that the estimates may clearly be shown as our best assessment of future requirements. The protester will be reimbursed its reasonable protest costs. This action will be taken, not only for the instant procurement, but for all of a requirements nature. Additionally, the Principal Assistant Responsible for Contracting will issue a Contracting Information Letter (CIL) to the field contracting offices providing additional guidance.